

# App Quality Gap

## 1. Initial thoughts & learning plan



Xfn app quality working group: jacoblehrbaum, zuzannad, hoil, amyudelson, lukeli, jaranda, bobsil, tybooyzen, dandole

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- This report represents the work of a cross-functional group including developer marketing, consumer marketing, Android DevRel, and the Android & dev UX teams.
- We came together organically to understand if any app quality disparities exist, identify the reasons for those disparities, and understand users' perception of app quality. We were each able to contribute a different lens on the issue, and this report represents our collective research and analysis.

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**EXHIBIT 5911.R-001**

What will we cover today?

## App Quality



## What are we trying to understand:



- Is there an app quality gap between Android & iOS and is it noticable for the user?
- Are certain app categories more impacted than others?
- What are the developer drivers of app quality gaps?
- How do we approach app quality internally?

## What we learned - user perception

**#1: Users perceive there's a **quality gap** between iOS & Android**

**There's a brand perception gap between iOS and Android, that increases with younger audiences.<sup>(1)</sup> Gen Z in particular favours iOS with their use of media / camera heavy apps.<sup>(2)</sup>**

Google Consumer Survey, US Oct 2020: <sup>(3)</sup>

|  | iOS   | Equal | Android   |
|--|---|-------|---|
| Apps offer more features and functionalities | 34%   | 29%   | 36%   |
| Apps are well designed and look better       | 37%   | 35%   | 28%   |
| Apps perform better and run smoothly         | 42%   | 34%   | 24%   |
|  |  | Equal |  |
| Greater number of apps offered in the store  | 39%   | 37%   | 24%   |
| Higher quality of apps offered in the store  | 35%   | 40%   | 25%   |
| More secure apps offered in the store        | 38%   | 42%   | 20%   |

The Gen Z Effect: <sup>(2)</sup>

It feels like the social media apps are geared towards iPhone, at least from my own experience with both Android and iPhone. I've found that all the apps run perfectly on my iPhone, and they're very easy to use.

Marina, 21,  
Android Switcher

android

Source: (1) Brand Pulse Android &amp; Google Play, (2) Gen Z Qualitative Research, (3) Google Consumer Survey N=1000

- From our ongoing brand pulse study we know that there's a brand perception gap between iOS and Android. iOS an App Store lead on performance & privacy, including fast, high quality, respects my privacy; and even perceived helpfulness. iOS owners rate their device higher than Android owners on all attributes except 'gives me more for less'
- And this perception gap goes even further with younger audiences. Gen Z in particular favours iOS with their use of media / camera heavy apps. Image & video quality was the #1 most highlighted user issue in our app gap research. It's not about the native app, but the quality breakdown when users share media on 3P apps. iPhone users make fun of Android users' low-quality posts (#androidquality)
- So we decided to look how in particular this translates into the app experience - so we ran dedicated survey among US smartphone users asking them do the believe one platform is better than another or are they equal in delivering app experience. And as you can see, for available features Android was slightly ahead, but for design and performance iOS was leading. For App Store, there was more high quality and secure apps offered than Google Play.
- So there is a perception gap, but is it real? I will pass it to Luke to talk you

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through the app audit results.

## What we learned - audit of 121 apps

# #2: The iOS / Android app quality gap is real

More instances (120 vs. 45) where iOS apps felt more **polished**.

Better [graphics](#), [iconography](#), [animations](#), [rounded corners](#), [scroll bars](#), [visual indicators](#), and haptics. Another cited reason is many iOS apps felt more consistent with the OS, such as similar apps & system settings (e.g., slider button), iOS-like wheel picker, and sharesheet.

More cases where iOS apps devote more attention to **first experiences**.

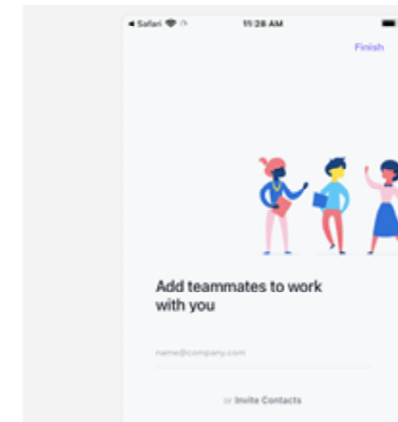
49 apps had tutorials - 12 (24%) exclusive to iOS and 6 exclusive to Android. 31 apps had tutorials for both platforms, reviewers rated 12 (39%) iOS and 3 Android tutorials to be [higher quality](#) than their counterparts. In 100 apps, reviewers also rated 49 iOS and 9 Android permission experiences better than their counterparts.

More examples (126 vs. 74) of iOS apps devoting more attention to **core experiences**.

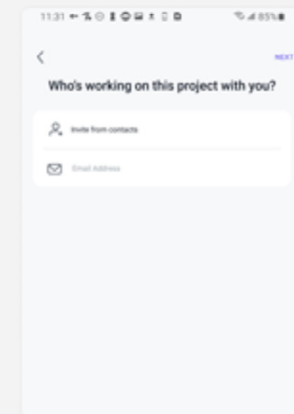
[Meitu](#), [Adobe Photoshop Express](#) on iOS enables more photo creation options<sup>1,2,3</sup>, account features<sup>1,2</sup>, functionality<sup>1,2,3</sup>, and tools<sup>1</sup>.

iOS apps feel more **effortless** (smartwatch).

2020 | Confidential 12 apps reviewed. Apps auto install on Apple Watch and sync seamlessly. WearOS requires manual install (at least 4 steps)



iOS



Android

- Mention Android strengths verbally. Add contents to Appendix. Link reports in appendix.
- Android apps allows and better supports font size options
- ~75% of Android apps support font size adjustment, compared to ~% on iOS.
- Font size adjustments usually do not truncate text (e.g., [Facebook](#), [AirVisual](#)).
- Apple ID accepted for ~% of apps reviewed, Google sign in accepted for ~%. It may not be too different, checking.

## What we learned - developer perspective

## #3: Android as a second tier platform

1

## iOS first business strategy

iOS offers higher revenue, ROI and devs have a higher existing user base on iOS

Marketing & Business roles prefer iOS and they're located in WE and NA

- “ The Economist get 90% of their revenues from iOS. Android functionalities lags by 12 months
- “ Lack of revenues impact localization - *"who pays the piper calls the tune"*
- “ Pixel / WearOS has no critical user base

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## iOS first design

Mobile = iOS, UX frequently researches & designs for iOS first, then adapting

Some want distinct, different user experiences for different platforms

iOS design elements/tools are better embedded into design tools

- “ Many times Android is an iOS port.
- “ We design for iOS and the hope for the best when adapting to Android.
- “ Yes, you can make UX the same on both Android and iOS, but do you really want to? Android apps should look and behave like Android apps, not iOS apps.

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## Android development challenges

Developing for the lowest common denominator

Device & version fragmentation remains the single biggest pain-point

- “ Viber is spending 30% dev time to support different Android versions back to 4.2
- “ ReactNative: “Android supports 10k+ different phones... unfortunately you get less for free relative to iOS”

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Source: Developer Community Research, Developer Brand Universe Study, Android Benchmarking, Dev Rel Interviews

- Timed -51 seconds
- In the Android cross functional chat, we asked partner DevRel WHY are Android apps worse than equivalent iOS apps. Four points came back,
- First, from a business / product standpoint, iOS monetised better in North America and Europe. Same with mindshare.
- Secondly, we also find designers are iOS first and Android can become a copy.
- Thirdly, we looked at the developmental challenges. Here, device and version fragmentation remains a significant problem.
- Developers are either spending a significant amount of time on this or are choosing the lowest common denominator.
- Talk about Android strengths verbally. Lastly on tooling, this is not on the slide. Android Studio is viewed as on par if not better than Xcode
- =====
- Source:
- Design Tool Comparison - <https://docs.google.com/presentation/d/1wS9ZqwkRPsc1rw2zAVhY4AsosQHm62XeEkAdl0ndtvc/edit>
- ReactNative Quote from the official performance profiling doc –

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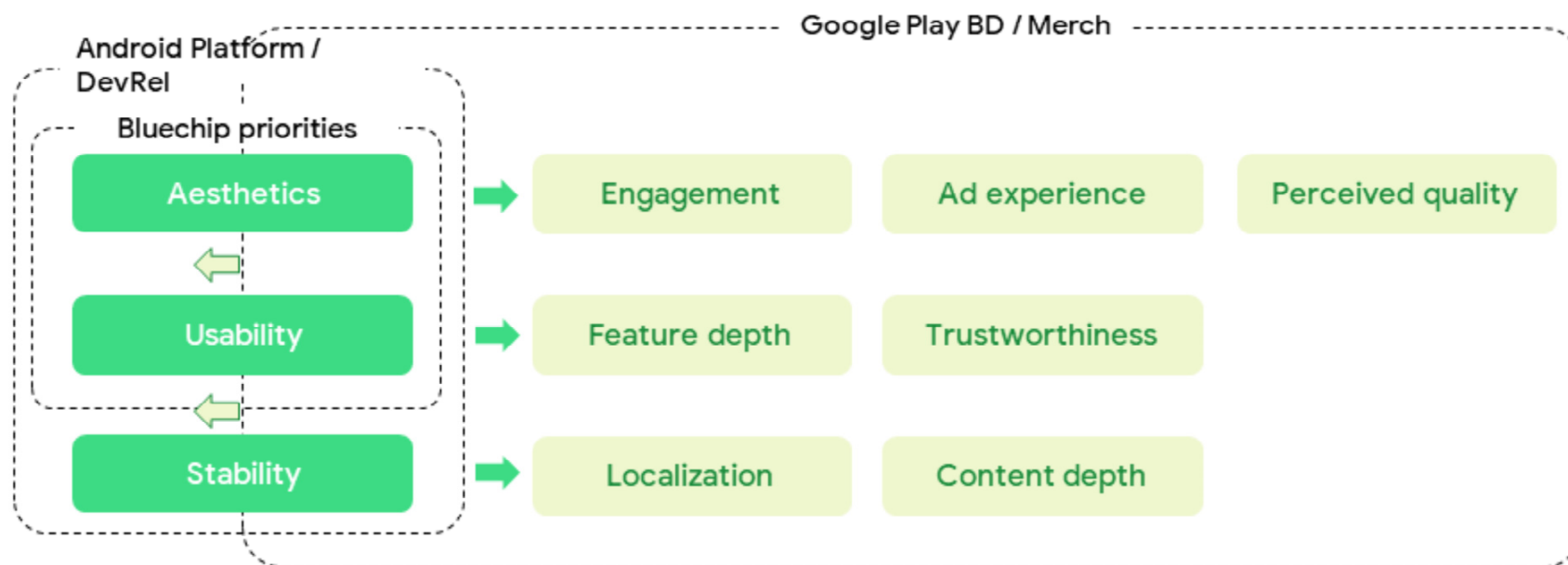
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<https://reactnative.dev/docs/profiling>

What we learned - our internal approach

## #4: There is **no unified definition & measure** of App Quality



Quality is an **emerging area** for the Android Platform / DevRel team

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- Another thing we found is that there is no unified definition on App quality. That mean two things:
- First, the teams can become unbalanced in terms of what they look at for example, Play BD / merchandising doesn't look at Android platform requirements as much as we would like and likewise, the platform teams may not be doing what partners need.
- Secondly, this also mean cross pollination doesn't happen, each team of course should focus on what they do best but we can also benefit from learning from each other. That can happen in areas we already work on or in neighbouring areas - for example, DevRel can do more to help push technical advice around localisation.
- Quality is an emerging area for the platform and DevRel team.
- =====
- For [Google Play Actual Quality assessment](#), performance or "responsiveness" is accounted for under Usability and stability which takes into account of "freezes" and "glitches" - but these are only for top end devices.

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## Slide 6

- 2 Amy Udelson@google.com  
Raj Ajrawat, 11/9/2020
- 1 Amy Udelson@google.com  
2020
- 1 Hoi Lam@google.com who built this slide  
Amy Udelson, 11/9/2020
- 2 Hoi Lam@google.com who built this slide  
Amy Udelson, 11/9/2020
- 2 These are the areas by aQuality under "post install" -  
[https://docs.google.com/document/d/1sK4ejWgy2QjFA\\_U2mXSFFJfb\\_B\\_3\\_wor5UtljLq4xMI/edit#heading=h.e6yxwgpm9fzq](https://docs.google.com/document/d/1sK4ejWgy2QjFA_U2mXSFFJfb_B_3_wor5UtljLq4xMI/edit#heading=h.e6yxwgpm9fzq)  
Hoi Lam, 11/10/2020
- 1 There are opportunity to expand. For example, DevRel can do more in the area of localization - e.g.  
<https://docs.google.com/document/d/136qFIFVcDSDBXQ2VilW5wttTi6mJnnJxc5uBcvRFMfc/edit> and for some platform initiatives such as dark theme, would be great to get more help from Play. At the moment, aQuality focuses mainly on apps individually. Making some aspect coherent - dark theme, sharesheets are not part of the metric. In our app audit, consistency in some areas will impact app usability and we should add that to play while respecting individuality of apps.  
Hoi Lam, 11/10/2020
- 1 Kobi Glick@google.com Alex Musil@google.com Mak Bavicic@google.com Federico Colla@google.com Chris Thornton@google.com FYI given our own efforts to measure this  
Lauren Mytton, 11/10/2020
- 1 What doe the boxes here under Google Play BD / Merch represent? Is this saying these things are Play BD / Merch focus areas?  
Mike Marchak, 11/11/2020
- 2 I still don't really understand this. This seems to be a list of aQuality review criteria. i think the title of the box indicates that at some point these were requested to be added to aQuality by those teams.
- However, reading the slide, it seems like these things have unique quality ratings and those are judged by BD / Merch.
- Maybe I'm missing how the visual is supposed to help the headline.  
Mike Marchak, 11/11/2020
- 1 Sorry what do the arrows signify on this slide?  
Sarah Karam, 11/11/2020
- 2 thanks for clarifying hoi, makes sense  
Sarah Karam, 11/11/2020

## Next steps

**Mission: Scale App Quality in the Android Ecosystem**

Align on x-team App Quality definition and metrics

## Research &amp; Benchmarking

## Partner research:

Further understand drivers of app quality gap and opportunities for Google to close it, with focus on processes and decision making across Product, Design and Development (result December 2020).

## Consumer perception tracking:

Add app quality question into the Play brand pulse to track perception over time:

*How much do you agree or disagree with the following statements? (1-5): The [Google Play Store / Apple App Store] has the highest quality [apps / games].*

## App Quality Alignment

## Building institutional muscles on quality:

- Evergreen quality definition - Quarterly reviewed.
- Teams can have different lens on the same list.
- Systematic knowledge sharing with TechOps, Partner DevRel and Dev Marketing.
- Targeted distribution - Partners & TechOps.

## Update Core App Quality checklist:

- [Current list](#) is too basic.
- Performance and polish will play a bigger role.
- Update with easily missed requirements - e.g. gesture navigation.
- Provide resources and solutions from developer perspective.

WIP

## Product Adoption

## Existing Android Platform APIs for:

Follow up promotion of these modern Android features:

- P0 - Dark theme
- P0 - Gesture Navigation
- P0 - Shakesheet (TBC)
- P2 - Adaptive icons

## New BlueChip API / form factors:

As and when they become ready:

- New functionalities and best practices will be included in the quality checklists.
- Working with DevRel area owners for tablet and games to develop new best practice and checklists.

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- App Quality Checklists page views per month.
- Core - 18,800
- Tablet - 3,800
- TV - 2,300
- Auto - 2,000
- Next Billion - 1,200
- Wear - 800

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## Slide 7

- 3 **Amy Udelson** google.com **Jacob Lehrbaum** @google.com  
Raj Ajrawat, 11/9/2020
- 4 **Jacob Lehrbaum** google.com **Amy Udelson** @google.com  
Raj Ajrawat, 11/9/2020
- 1 **Hoi Lam** @google.com and amy are probably best to weigh in.  
Jacob Lehrbaum, 11/9/2020
- 3 Can you help clarify what part of slide 5 ("Android as a 2nd tier platform") will be solved if we achieve this mission? Would a desired outcome of achieving this mission be that we solve for Android development challenges?  
Sarah Karam, 11/9/2020
- 3 I see it more the other way around. We need to understand why Android is a 2nd tier platform in order to help us with this mission of "scale app quality". The 2nd phase research we have planned will dig into design and development challenges (listed on slide 5), among other things. But some of it we can't solve in this workstream (e.g. higher iOS revenue).
- 2nd phase dev research here:  
<https://docs.google.com/document/d/1wVZGvililY3ZtVCSJWUPMJJqh6YiQAjZJMYZPH6SjQ/edit>  
Amy Udelson, 11/9/2020
- 2 really good points, Mike.
- fyi **Hoi Lam** @google.com  
Jacob Lehrbaum, 11/9/2020
- 2 i believe the Console, particularly the pre-launch report, has the opportunity to play a much stronger role as the vehicle for giving developers feedback at scale about the quality of their app beyond current scope of stability/performance/security: focusing on usability and best practices e.g. is dark mode available, are applinks implemented correctly etc. i also think it would be much easier to scale PLR to do this if we turned it into more of a service for other teams x-Google whereby PlayDev defines the standards for what is shown and how, but other teams can generate the measurements.
- Fedrico Colla**  
**Alex Musil** @google.com **[REDACTED]** @google.com **Kobi Glick** google.com  
**Greg Hart** @google.com  
Lauren Mytton, 11/11/2020
- 5 **Kenneth Lui** @google.com +1 to that idea Lauren. Kenneth's TechOps team does something similar with certain managed partners (when we do Merch reviews, we will strongly suggest a developer make updates to Wear or TV or other surfaces, but we don't gate them). Perhaps we include those recommendations across the board in PLR, etc.  
Raj Ajrawat, 11/11/2020
- 4 If we could adapt PLR to be more of a "quality scorecard" ....ie, "pre-launch" branding seems off. We'd also want to tie this to incentives

## Next steps

# App Quality: Outstanding questions

### Working group

- What should be the scope of this xfn group moving forward?
- Product manager representation in this group?
- Google Play representation in this group?

### User

- If app quality is not a direct factor in [purchase decision](#), how important is it for us to focus on?
- How much does app quality impact OS / brand perception, which are key factors in purchase decisions?
- Even if we solve for app quality, will that move the needle on Android share?

### Developer

(to be further explored in research)

- To what extent are developers aware of a quality gap and working on solving it?
- Is there a particular role, process or moment in app life cycle that escalates the gap?
- What kind of tools / best practices can we offer developers to close the gap on quality?

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Slide 8

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Katie Roberts- Hoffman

@google.com

Greg Hart

google.com for a view on this from the games perspective - where i believe we think this is the case

Lauren Mytton, 11/11/2020

## Resources

## Links to reports

## Consumer Perception

- [Android Brand Health US June 2020](#)
- [Google Play Brand Health US June 2020](#)
- [The Gen Z Effect](#) Research
- [Smartphone Purchase Journey US 2020](#)
- [App Quality Gap Survey - GCS October 2020](#)

## App Audit

- iOS/Android App Differences, overall and by app category ([link](#))
- Summary slides per app ([link](#))
  - Selected examples ([link](#))
  - iOS/Android App Quality Reviewer Template ([link](#))
  - Reviewer protocols ([link](#))
  - App Eval Datasheet, raw data ([link](#))
  - Category Trends, raw data ([link](#))

## Developer Research

- [Multiplatform and feature adoption survey](#)
- [2020 Q1 Android Dev Benchmark Survey](#)
- DevRel x-functional - Why are Android equivalents of iOS apps worse and what can we do about it? ([link](#))
- Developer Brand Universe, [iOS vs Android platform preference](#), 2020

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Thank you!



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